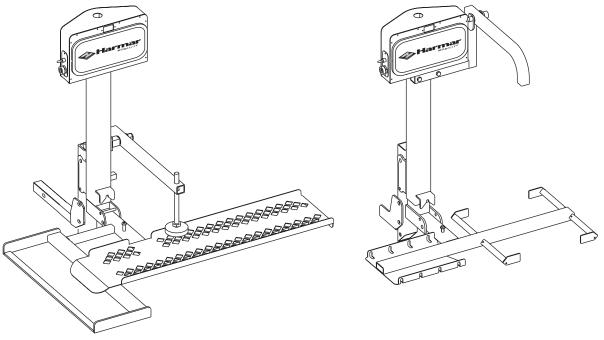


AL010 MICRO SCOOTER LIFT AL030 POWER TOTE MANUAL WHEELCHAIR LIFT INSTALLATION GUIDE & OWNER'S MANUAL



AL010 Micro Scooter Lift

AL030 Power Tote for Manual Wheelchairs

Congratulations on your new lift purchase. The Micro Scooter Lift and Power Tote are two of the easiest and most trouble free ways to transport your chair or scooter. This manual is written to be used both as an installation guide as well as an operation guide for the end user for both the AL010 Micro Scooter Lift and AL030 Manual Wheelchair Lift. Refer to the index below for the sections that apply to your lift and options.

Please read the manual thoroughly BEFORE attempting any installation, adjustment or use of the lift.

Both installers and operators should familiarize themselves with this entire manual. The manual will be divided into the following sections for easy reference;

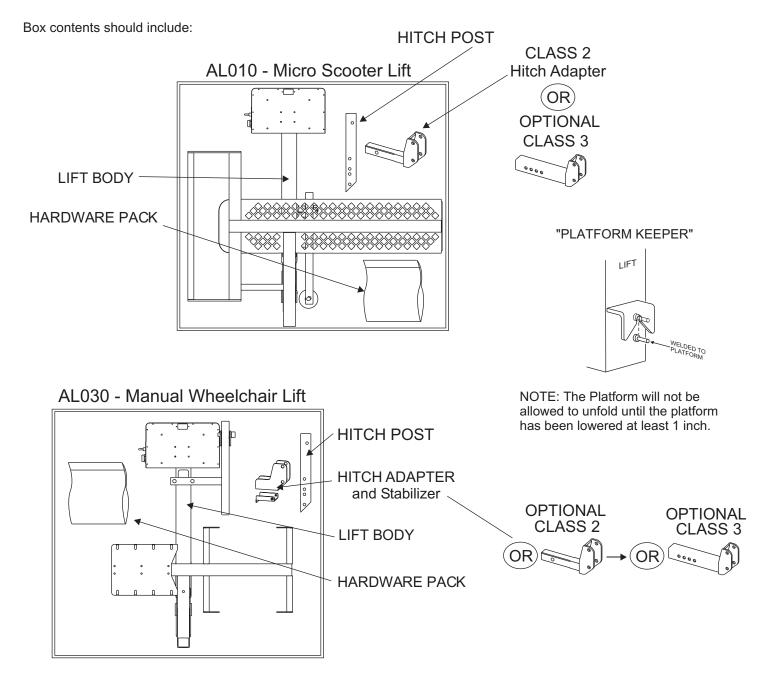
- Section 1 Unpacking the Lift
- Section 2 Wiring the Vehicle
- Section 3 Vehicle Preparation
- Section 4 Installing the Lift (No Swing Away) Section 5 Installing the Lift (with Swing Away Option) Section 6 Operating the AL105 Swing Away Option
- Section 7 Operating the AL010 Micro Scooter Lift
- Section 8 Operating the AL030 Power Tote Lift
- Section 9 Adjusting the AL010 and AL030 Section 10 Safety & Maintenance Section 11 Troubleshooting Guide

If you have any questions or comments concerning the installation or operation of your scooter/chair lift, please contact your local distributor for additional technical information. Only authorized dealers should install this lift.

Caution: Some scooters and chairs may be unsuitable for transport in or on a motor vehicle. Please contact the manufacturer of your mobility device to determine its transportability.

Section 1 - Unpacking the Lift

Your Universal Outside Lift was factory pre-assembled to require little assembly before installation.



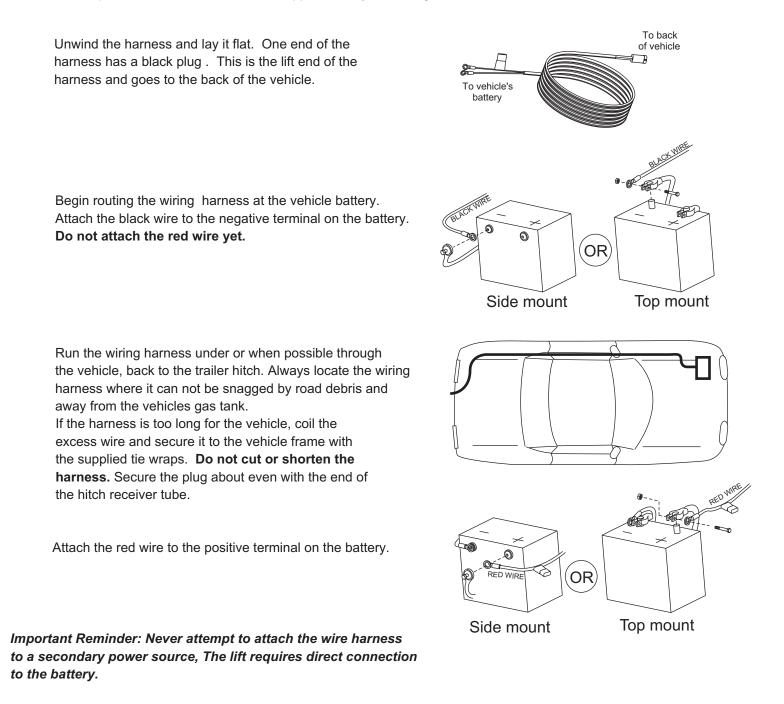
Each AL010 is packaged standard with a standard Class 2 hitch adapter. Each AL030 is packaged with a standard Class 1 flat bar style hitch adapter and stabilizer. If a Class 2 or Class 3 hitch adapter or Swing Away option is required, separate parts must be ordered. See Section 5 for installing a lift with the Swing Away option in this manual.

Be sure and check the contents of the box against the package check list to be sure that all parts are included with the lift that are required for proper installation. If any parts are missing or if any damage is noted, immediately contact the distributor from which you purchased your lift. **DO NOT attempt to install or use the lift with any missing or damaged parts.**

Section 2 - Wiring the Vehicle

Important Note: IMPROPER WIRING IS THE #1 CAUSE OF PROBLEMS IN THE OPERATION OF A VEHICLE LIFT. FOLLOW THE WIRING INSTRUCTIONS CAREFULLY

Located in the hardware package is the vehicle wiring harness. The harness is manufactured to, and complies with the SAE J1128 requirements. The wire harness is approximately 23 ft. long and will accommodate most vehicles.



Caution: When the installation requires the wiring harness be run on the underside of a vehicle, route the harness away from the exhaust system, brake lines, fuel lines, gas tank, pinch points, and sharp edges. Locate the wiring harness where it can not be snagged by road debris.

Manufactures Recommendation: Schedule a routine maintenance visit with the end user. Harmar recommends the lift be greased in the applicable areas, and the wire harness connections be checked for corrosion, and/or decay, as such conditions are normal due to environmental changes.

Section 3 - Vehicle Preparation

To install the lift on a vehicle, it must be capable of accepting a hitch. If you are unsure about the hitch required, there are different places for you to check.

Hitch Shops - Check your local area for shops that specialize in trailer hitches.

They will normally have in stock the hitch that would be required for use with the lift.

Internet - Some web sites list the compatibility of hitches with vehicles.

These include the following; www.hitch-web.com, www.reeseprod.com, or www.draw-tite.com

These sites have areas where you can enter your vehicle information and it will list the types of hitches available to be installed. Remember, not every vehicle is capable of having a hitch installed. Each type of hitch is capable of bearing a different amount of tongue weight. Remember that you must add the weight of the lift to the weight of the chair/ scooter that you are purchasing and make sure that the total weight does not exceed the recommended tongue weight of the hitch. The AL010 Micro Scooter Lift weighs 70 lbs, and the AL030 Manual Wheelchair Lift weighs 60 lbs. Add 40 lbs. when using a swing away.

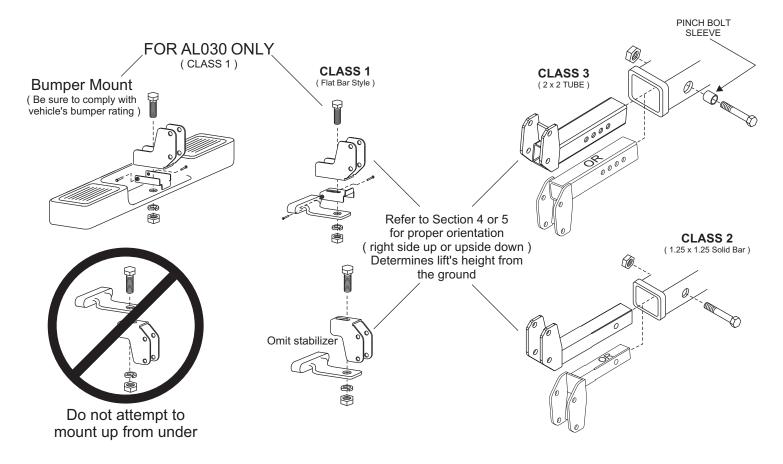
Your lift is equipped with a license plate holder and light. If possible, have the installer of your hitch run a standard 4 post trailer light harness to the hitch area. This will allow you to simply plug the license plate light wiring into the trailer plug with no additional wiring required at the time of lift installation.

IMPORTANT NOTE: A trailer light wiring plug is good only for the license plate light and not to power your lift. All lifts must be wired directly to the positive pole of the battery using the wiring harness supplied with the lift.

Any attempt to wire the lift into **ANY** secondary harness will cause the lift to run poorly and possibly damage the motor. The trailer light wiring simply does not carry the proper current to power the lifting motor.

IMPORTANT NOTE: If applicable, the receiver tube on the hitch must be installed so that it is parallel to the ground. This is not a recommendation, but rather a requirement. If the hitch is not installed properly, it may affect the working of the lift. Some vehicles will require that the rear suspension be supplemented by the addition of air adjustable shocks, air bags in the springs or other devices to keep the vehicle level.

See Diagrams below to determine which Hitch Adapter install applies to your application



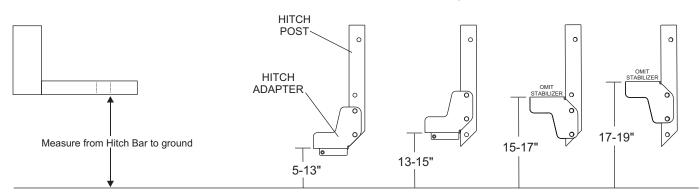
Section 4 - Installing the Lift (no Swing Away option)

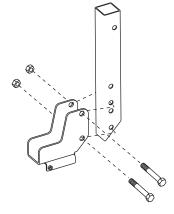
Your lift will come shipped to you factory pre-assembled.

To prepare the lift for installation you must attach the lift to the Hitch Post and Hitch Adapter that are shipped with the lift (See parts list in section 1). The proper attachment place is determined by the height of the installed hitch on the vehicle.

Measure from the bottom of the hitch to the ground. Use drawing below to determine which set of holes to use when setting up the Hitch Post and Hitch Adapter. Use the $1/2^{\circ} \times 3-1/2^{\circ}$ bolts and nuts provided and tighten.

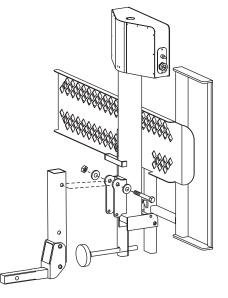
Drawings below depict a Class 1 Hitch Adapter The installation for a Class 2 or 3 Hitch adapter is identical

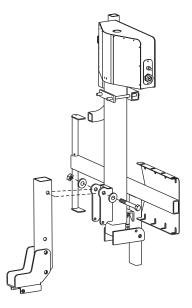




Once you have determined the proper configuration for the Hitch Post, attach it to the Hitch Adapter as shown to the left using supplied hardware (1/2-13 x 3-1/2" HHCS, and lock nuts)

Move the folded lift to the rear of the vehicle with the motor box folded away from the vehicle. With assistance, carefully lift the unit up to the Hitch Post and attach it using the 1/2" bolt, washers, and lock nut provided.





Section 5 - Installing the Lift (with Swing Away option)

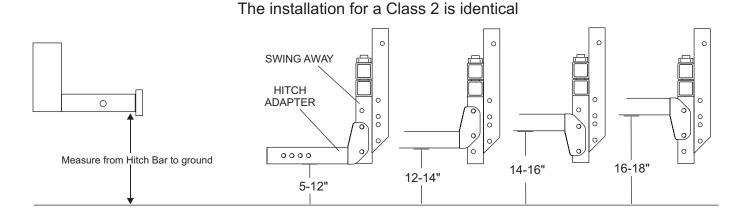


CLASS 1 Hitch Adapter can NOT be used when installing a Swing Away

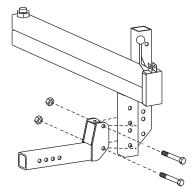
Your lift will come shipped to you mostly pre-assembled.

To prepare the lift for installation you must attach the lift to the Swing Away and Hitch Adapter. The proper attachment place is determined by the height of the installed hitch on the vehicle.

Measure from the bottom of the hitch to the ground. Use drawing below to determine which set of holes to use when setting up the Swing Away and Hitch Adapter. Use the 1/2" bolts and lock nuts provided and tighten.

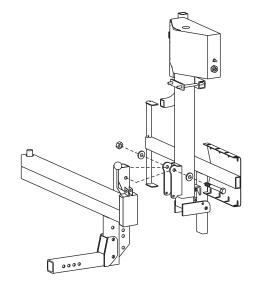


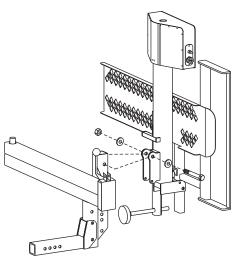
Drawings below depict a Class 3 Hitch Adapter



Once you have determined the proper configuration for the Swing Away, attach it to the Hitch Adapter as shown to the left using supplied hardware (1/2-13 x 3-1/2" HHCS, and lock nuts)

Move the folded lift to the rear of the vehicle with the motor box folded away from the vehicle. With assistance, carefully lift the unit up to the Swing Away and attach it using the 1/2" bolt, washers, and lock nut provided.





Section 6 - Operating the Swing Away Option

Many scooter and chair owners require access to the rear of a vehicle. To accomplish this a Swing Away option is added to the lift installation. This allows the complete lift to be conveniently and easily swung away from the back of the vehicle and allow easy access to the trunk or lift gate. The Swing Away option can be purchased from any authorized dealer and added at any time.

OPENING THE SWING AWAY:

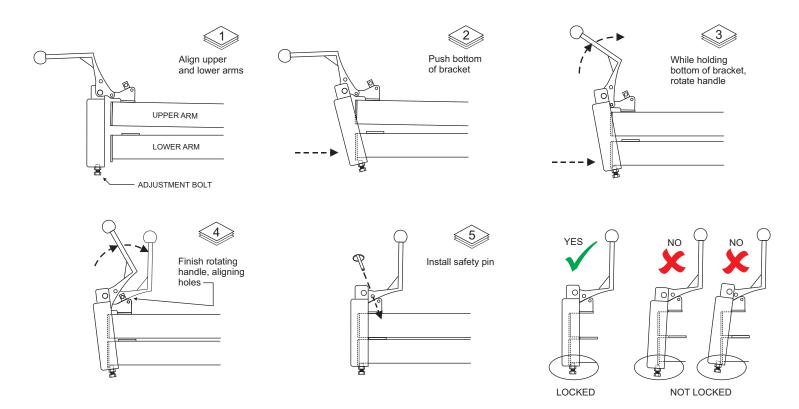
Unlock the safety clamp by pulling the snap pin chained to the clamp. Open the safety clamp by pulling the lever down and away from the lift. This will unlock the Swing Away and allow it to be pulled open.

IMPORTANT!! NEVER OPERATE THE SWING AWAY WITH THE CHAIR or SCOOTER ON THE LIFT!! This will cause damage to the Swing Away, lift and potentially cause damage to the vehicle and the chair!!

CAUTION!! Always insure that the vehicle is on level ground before attempting to open the Swing Away. Failure to do so may result in the operator losing control of the lift causing damage to persons and property.

Grasp the lift firmly and swing it out away from the vehicle. The Swing Away can be opened up to 180 degrees from the closed position to allow full access to the rear of the vehicle.

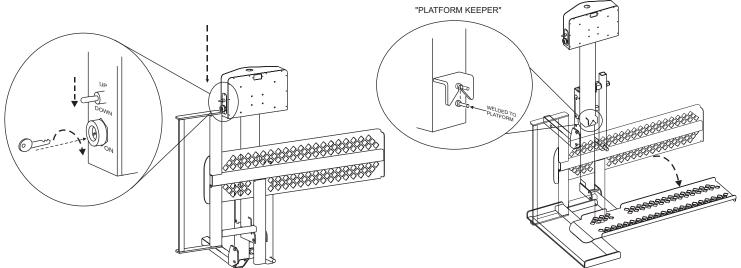
CLOSING THE SWING AWAY:



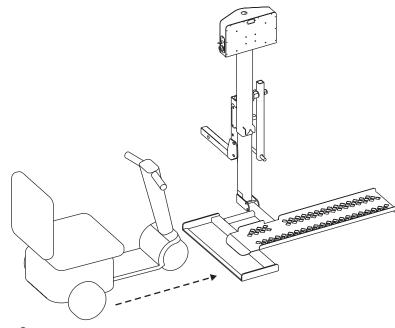
CAUTION!! Always leave the safety pin in the clamp to lock it when the Swing Away is closed.

IMPORTANT NOTE!! If your safety clamp does not SECURELY latch the Swing Away arm in the closed position DO NOT USE THE LIFT until the clamp is adjusted by an authorized dealer. Failure to make the proper adjustment can cause the unit to open when traveling down the road.

Section 7 - Operating the AL010 Micro Scooter Lift

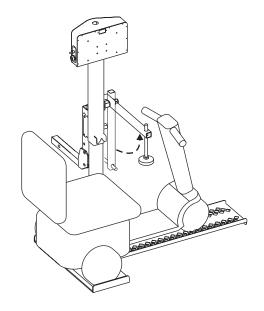


1 Insert Key and switch to "ON" position Press down on Toggle switch momentarily.

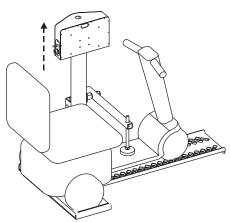


² Once platform has been lowered at least an

inch, unfold the platform. Continue lowering to the ground.



3 Drive scooter onto platform as shown.

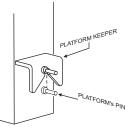


5 Raise platform until hold down foot depresses scooter's deck or until lift's motor ratchets.

Raise hold down arm.

To remove the scooter and prepare the lift for unloaded travel, follow above steps in reverse order and reverse the direction of the arrows.

Lift should be raised with the platform folded and until the lift's motor ratchets. Verify that the platform keeper has engaged the platform's pin.



Section 7 - Operating the AL010 Micro Scooter Lift

LOADING YOUR SCOOTER ON THE LIFT

Turn ON the power switch with the key furnished with your lift. Lower the platform using the UP/DOWN toggle switch. Pushing the switch downward will cause the platform to lower. Unfold the platform, then continue lowering to the ground. Release the UP/DOWN switch just as the platform reaches the ground; do not attempt to raise the rear of the vehicle with the lift or damage could be done to your lift or vehicle.

CAUTION: Keep your feet out from under the platform as it lowers.

Once the lift platform is on the ground, drive your scooter onto the platform, from left to right, until the rear wheels are located in the rear wheel platform cradle.

With the scooter on the platform and the rear wheels located in the wheel stops, raise the platform with the UP/DOWN toggle switch until the platform stops automatically.

Your scooter is now ready for travel. You may wish to remove your key from the power switch to avoid any potential tampering with your lift and scooter.

- **Caution:** On some scooters, it may be necessary to temporarily move the steering tiller forward to clear the hold down arm as it lowers into the lock down position.
- **Caution:** Some scooters have pneumatic (air inflated) tires. If your scooter has this type tire, be sure the tires are properly inflated. Improper inflation of the tires will change the deck height of the scooter and therefore change the amount of clamping force the hold down arm places on the scooter. The scooter can fall off of the lift if not properly secured.
- Caution: Before driving off with your scooter on the lift, make sure that the scooter is firmly held down on the platform.
- **Caution:** When driving with your scooter on the lift, slow down for pot holes, speed bumps, railroad tracks, etc. Your lift could be damaged by abuse if subjected to excessive loads imposed by rough driving.
- **Caution:** Do not enter steep driveways straight on. Enter and leave at an angle to the street so that you lift platform does not drag on the ground.
- **Caution:** Do not attempt to move the vehicle with the lift platform in the down position. If moved this way, the lifting mechanism will be damaged.

UNLOADING YOUR SCOOTER:

To unload your scooter, just turn ON the power switch and push the UP/DOWN toggle switch to the down position. Hold the switch down until the platform just touches and is level to the ground. Fold away the hold down arm. Drive your scooter off in REVERSE. When the scooter is clear of the platform, raise the platform by pushing up on the UP/DOWN switch.

Caution: If the steering tiller needed to be moved when loading the scooter, be sure that it is out of the way of the hold down arm prior to lowering the platform.

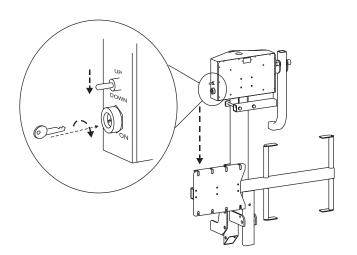
To park your lift in the stowed position, hold the UP switch. The platform will start up in the horizontal position. Once it has reached close to the top of its travel, fold the platform. Continue to raise the lift until a racheting sound is heard. You may wish to remove you key from the power switch to avoid any tampering with your lift.

Special Note: The lift features a manual override. If the vehicle or lift loses power UNPLUG THE LIFT and turn the key switch to the "OFF" position. Remove the round plastic cap from the top of the motor box and using a 3/8" socket, turn the wrench clockwise to raise the lift and counter clockwise to lower the lift. (If the lift does not operate properly, immediately take it to the local dealer. DO NOT attempt to modify the lift in any way!)

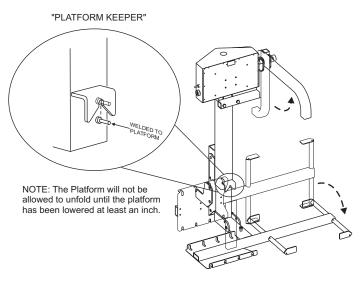
Do not attempt to move the vehicle without the lift in the stowed or travel position. Any attempt to move the vehicle without the lift fully up may cause damage to the lift, scooter or vehicle.



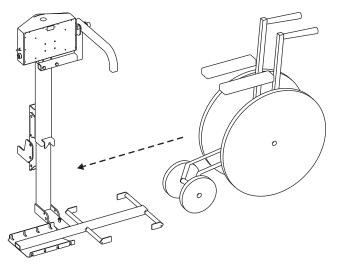
Section 8 - Operating the AL030 Manual WheelchairLift



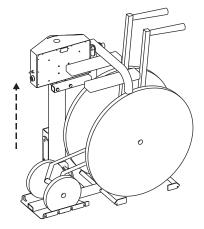
Insert Key and switch to "ON" position Press down on Toggle switch momentarily.



² Once platform has been lowered at least an inch, unfold the platform. Continue lowering to the ground. Raise hold down arm.



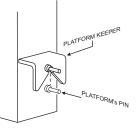
Roll folded chair onto platform as shown.



4 Raise the lift until hold down arm has contacted wheelchair's arm rests.

To remove the chair and prepare the lift for unloaded travel, follow above steps in reverse order and reverse the direction of the arrows.

Lift should be raised with the platform folded and until the lift's motor ratchets. Verify that the platform keeper has engaged the platform's pin.



Section 8 - Operating the AL030 Power Tote for Manual Wheelchairs

LOADING YOUR WHEELCHAIR ON THE LIFT

Turn ON the power switch with the key furnished with your lift. Lower the platform using the UP/DOWN toggle switch. Pushing the switch downward will cause the platform to lower. Unfold the platform, then continue lowering to the ground. Release the UP/DOWN switch just as the platform reaches the ground; do not attempt to raise the rear of the vehicle with the lift or damage could be done to your lift or vehicle.

CAUTION: Keep your feet out from under the platform as it lowers.

Once the lift platform is on the ground, raise the hold down arm. Roll the wheelchair onto the platform until the large rear wheels settle into the platform "H" frame cradle. Raise the platform with the toggle switch until the lift's arm comes in contact with and clamps down the chair.

Your chair is now ready for travel. You may wish to remove your key from the power switch to avoid any potential tampering with your lift and scooter.

Caution: Before driving off with your chair on the lift, make sure that the chair is firmly held down on the platform.

Caution: When driving with your chair on the lift, slow down for pot holes, speed bumps, railroad tracks, etc. Your lift could be damaged by abuse if subjected to excessive loads imposed by rough driving.

Caution: Do not enter steep driveways straight on. Enter and leave at an angle to the street so that you lift platform does not drag on the ground.

Caution: Do not attempt to move the vehicle with the lift platform in the down position. If moved this way, the lifting mechanism will be damaged.

UNLOADING YOUR WHEELCHAIR:

To unload your chair, just turn ON the power switch and push the UP/DOWN toggle switch to the down position. Hold the switch down until the platform just touches and is level to the ground. Roll your chair off the lift platform. Fold the hold down arm to its stowed position.

To park your lift in the stowed position, hold the UP switch. The platform will start up in the horizontal position. Once it has reached close to the top of its travel, fold the platform. Continue to raise the lift until a racheting sound is heard.

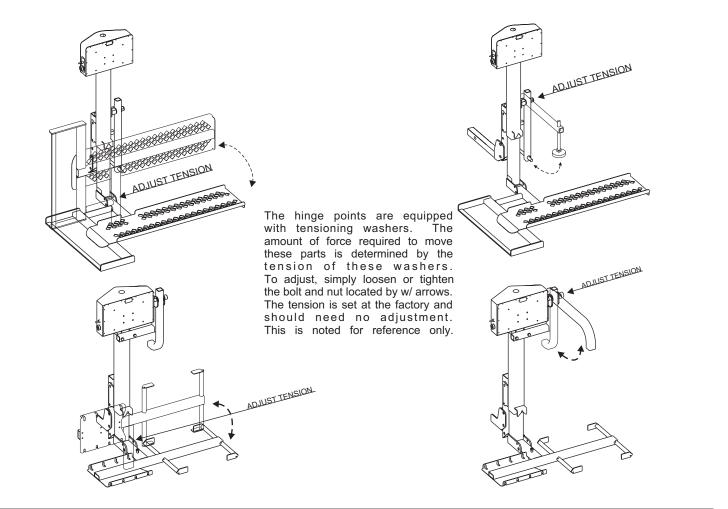
You may wish to remove you key from the power switch to avoid any tampering with your lift.

Special Note: The lift features a manual override. If the vehicle or lift loses power UNPLUG THE LIFT and turn the key switch to the "OFF" position. Remove the round plastic cap from the top of the motor box and using a 3/8" socket, turn the wrench clockwise to raise the lift and counter clockwise to lower the lift. (If the lift does not operate properly, immediately take it to the local dealer. DO NOT attempt to modify the lift in any way!)

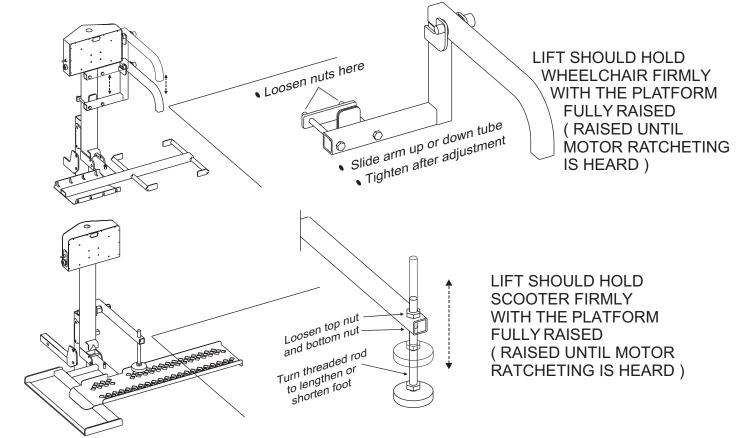
Do not attempt to move the vehicle without the lift in the stowed or travel position. Any attempt to move the vehicle without the lift fully up may cause damage to the lift, scooter or vehicle.



Section 9 - Adjusting the AL010 and AL030



AL010 and AL030 HOLD DOWN ARM ADJUSTMENT



Section 10 - Safety & Maintenance

SAFETY:

Caution: Keep hands away from **PINCH POINTS.** As with most mechanical objects, the hinge point of a moving part creates a pinch point. Be sure to not to stick fingers or extremities at or near these points.

Inspect the condition of your lift often. If any parts are worn or damaged DO NOT USE THE LIFT. Immediately contact the dealer you purchased the lift from for repairs.

Caution: Keep feet and any other objects out from under the platform as it lowers.

Caution: Some chairs and scooters have pneumatic (air inflated) tires. If your chair/scooter has this type tire, be sure the tires are properly inflated. Improper inflation of the tires will change how the unit fits on the platform and therefore change the amount of clamping force on the chair/scooter.

Caution: Before driving off with your chair or scooter on the lift, make sure that the chair/scooter is firmly held down on the platform.

Caution: When driving with your chair or scooter on the lift, slow down for pot holes, speed bumps, railroad tracks, etc. **Your lift could be damaged by abuse if subjected to excessive loads imposed by rough driving.**

Caution: Do not enter steep driveways straight on. Enter and leave at an angle to the street so that you lift platform does not drag on the ground.

Caution: Do not attempt to move the vehicle with the lift platform in the down position. If moved this way, the lifting mechanism will be damaged.

WARNING! This lift is not meant for human transport. Chair/Scooter must be unoccupied before operating lift.

These lifts are for chair and scooter transport only. **Do not** attempt to transport any other vehicles or materials on the lift other than what it is designed for.

MAINTENANCE:

The Universal outside lift has been designed to be as trouble free as possible for the owner. The maintenance schedule is no exception.

Every 30 days oil the pivot points on all moving parts.

During winter and under dirty and dusty conditions, re-grease the inside square tube every 30 days. Lower the platform to the ground and clean the square shaft with mineral spirits, WD-40 or any good solvent. Once clean, grease the square shaft with a high-grade water-resistant grease, such as boat trailer wheel bearing grease.

NOTE: Your lift was assembled at the factory with Slick 50 "ONE GREASE".

Check for paint chips and touch up any bare metal with a good gloss black enamel or lacquer to inhibit rust. This may be necessary more frequently when subjected to salt air or road salt.

Warranty:

This lift is covered by a three year factory warranty on materials and workmanship. Contact your local dealer for more information.

Section 11 Troubleshooting guide

The lift does not operate

Check the power supply. The wiring harness (both wires) must be run directly to the battery. Attaching the black (ground) wire to the frame of the vehicle is NOT considered a reliable ground.

Run the lift from a shop battery and not through the vehicle wiring harness. If this solves the problem, check the vehicle wiring harness for bad connections or broken wires.

NOTE: Each lift is equipped with a manual motor override located on the top of the motor box.

Simply remove the cap and use a 3/8" socket to manually operate the lift. **CAUTION!!** Make sure the key is in the "off" position and no power is connected to the lift.

SERIOUS INJURY MAY OCCUR IF POWER RESUMES DURING MANUAL OPERATION OF THE LIFT!

The motor does not lift the platform completely when in use.

Check the wire connections at the battery. A poor connection will cause the motor to run slow and have less lifting capacity. Run the lift from a shop battery and not through the vehicle wiring harness. If this solves the problem, inspect the entire length of the vehicle harness for breaks, or worn insulation. A good supply of power will ensure full lifting capacity.

The motor works intermittently

Check the ground and power wire making sure that it is securely attached to the battery of the vehicle. Grounding the lift to any other location may cause loss of ground and intermittent loss of power. Check the wires leading to the toggle switch in the motor housing box. All connections must be securely on the switch.

The platform or hold down arm is not holding upright or is too hard to move.

Check the tension of the pivot point bolts. Two tight, and the movement will be to too hard. Too loose and the part will not stay in the desired position. Tighten or loosen bolts until platform and/or hold down arm operates with some resistance. See section 9 for details.

There is a ratcheting sound when the lift is all the way up or down.

This is a normal sound. It is the clutch activating when the lift reaches the end position. This sound should only occur when the toggle switch is being pressed and the platform is at its highest and lowest point.

The license plate light does not work.

This light runs from the 4 prong trailer plug located on the vehicle wiring harness that powers the lift. Most hitch installers will install this type of wiring when the hitch is installed. If no such plug exists, it may be wired directly to a tail light or license plate light.

What do I do with the extra length of wire leading to the motor of the lift?

This wire is there in case a Swing Away Option is used with the lift. If a Swing Away is not installed, coil the extra wire and zip tie it to the frame of the lift out of the way of any moving parts. We recommend leaving the wire in case a Swing Away is added to the lift at a later time.

The lift does not reach the ground when lowered completely.

Check the attachment of the Hitch Adapter to the Hitch Post on the back of the lift (See section 4 or 5). The normal range of operation for the lift is 5 to 18 inches to the bottom of the hitch. Any higher vehicles will require a custom bracket.

The lift bottoms out when going over bumps or in driveways.

Check the attachment of the Hitch Adapter to the Hitch Post on the back of the lift (See section 4 or 5). The normal range of operation for the lift is 5 to 18 inches to the bottom of the hitch. The lift should be installed at the highest position possible. Enter driveways at an angle

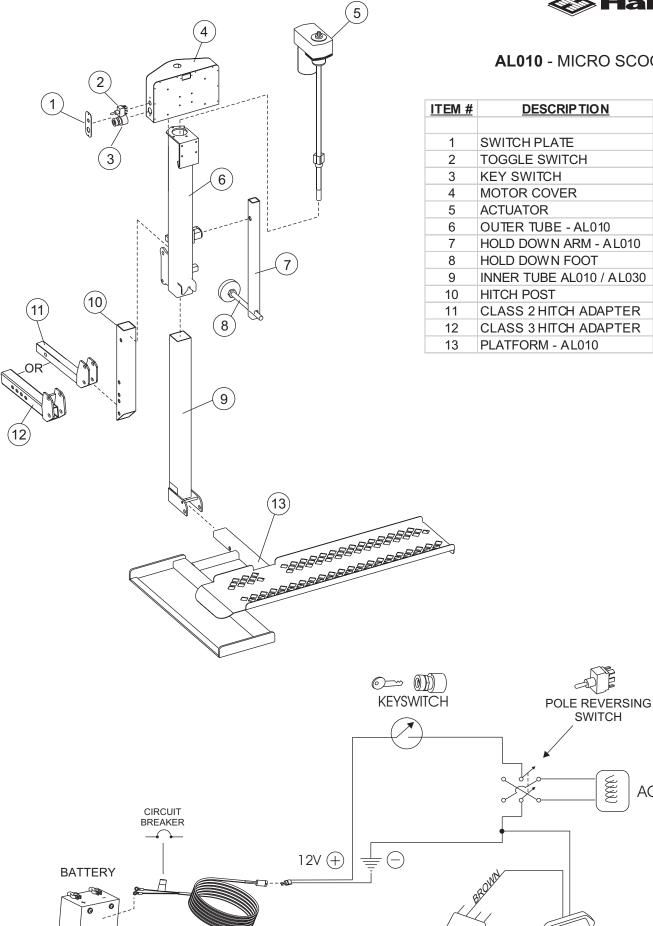
I have lost my keys.

Contact the dealer where the lift was purchased. If they do no have extra keys in stock, they can get them from the manufacturer.



AL010 - MICRO SCOOTER LIFT

ITEM #	DESCRIPTION	PART #
1	SWITCH PLATE	ALA12055
2	TOGGLE SWITCH	ALA12010
3	KEY SWITCH	ALA12015
4	MOTOR COVER	ALA12050
5	ACTUATOR	ALA10010
6	OUTER TUBE - AL010	ALA0103
7	HOLD DOWN ARM - A L010	ALA010017
8	HOLD DOWN FOOT	ALA18020
9	INNER TUBE AL010 / AL030	ALA0300
10	HITCH POST	ALA129
11	CLASS 2 HITCH ADAPTER	AL126
12	CLASS 3 HITCH ADAPTER	ALA123
13	PLATFORM - AL010	ALA0112



VEHICLE HARNESS

MOTOR COVER LIGHT TRAILER PLUG

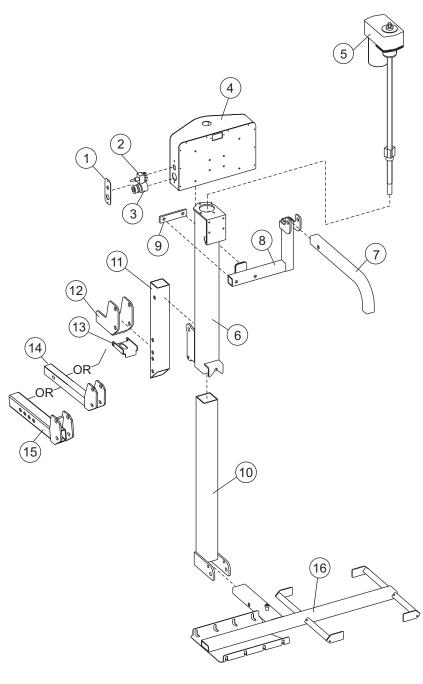
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SWW

ACTUATOR

SWITCH

C





AL030 - POWER TOTE MANUAL WHEELCHAIR LIFT

ITEM #	DESCRIPTION	PART #
1	SWITCH PLATE	ALA12055
2	TOGGLE SWITCH	ALA12010
3	KEY SWITCH	ALA12015
4	MOTOR COVER	ALA12050
5	ACTUATOR	ALA10010
6	OUTER TUBE - AL030	ALA0303
7	HOLD DOWN ARM - AL030	ALA0305
8	HOLD DOWN ARM MOUNT	ALA0307
9	HOLD DOWN ARM BACK PLATE	ALA03020
10	INNER TUBE AL010 / AL030	ALA0300
11	HITCH POST	ALA129
12	CLASS 1 HITCH ADAPTER	ALA01090
13	CLASS 1 STABILIZER	ALA01097
14	CLASS 2 HITCH ADAPTER	AL126
15	CLASS 3 HITCH ADAPTER	ALA123
16	PLATFORM - AL030	ALA0312

